

Serial No. 09/606,050

H-926

IN THE CLAIMS

Claims 1-12 (Canceled)

13. (Currently Amended) A computer system comprising:

- a plurality of client computers;
- a plurality of servers;
- a plurality of storages which have multiple disk drives and keep data in said plurality of disk drives;
- a local area network (LAN) which connects said computers with said servers ~~and~~; and
- a storage area network (SAN) which lies between said servers and said storages,

wherein said SAN forms a switched circuit network having fiber channel switches and arranged to connect any of said servers and any of said storages through said fiber channel switches, and said computer system comprising:

- a terminal, which is connected to said LAN and equipped with operation and management software which performs storage management, including management of logical volumes in said storages, management of data arrangement including moving data in one of said logical volumes to another of said logical volumes, management of error monitoring for said storages, management of setting up said fiber channel switches, and

Serial No. 09/606,050

H-926

management of a server-less backup operation for backing-up data directly from one of said storages to a backup storage of said storages via said SAN without relaying said data via any of said servers or said terminal.

14. (Previously Presented) The computer system as claimed in claim 13, wherein said SAN is connected to a SAN in another computer system via a wide area network (WAN).

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15. (Previously Presented) The computer system as claimed in claim 13 wherein, when a backup copy of data in a primary volume in said one storage is made to said backup storage in a non-disruptive manner, a secondary volume corresponding to the primary volume is created by internal functions in said one storage, copies are made from said primary volume to said secondary volume, the made copies are transferred from said secondary volume to said backup storage via said SAN without passing said LAN, and thereby backup is achieved.

16. (Previously Presented) A computer system comprising:

a plurality of client computers;

Serial No. 09/606,050

H-926

a plurality of servers;  
a plurality of storages which keep data;  
a local area network (LAN) which connects said computers  
with said servers; and

a storage area network (SAN) which lies between said  
servers and said storages,

wherein said SAN forms a switched circuit network having  
fiber channel switches and arranged to connect any of said  
servers and any of said storages through said fiber channel  
switches, and

01  
wherein when a backup copy of data in a primary volume in  
one of said storages is to be made to a backup storage of said  
storages in a non-disruptive manner in a server-less backup  
operation for backing up data directly from one of said  
storages to said backup storage without relaying said data via  
any of said servers, said one storage is arranged to receive a  
volume split instruction from one of said servers, process as  
if data in the primary volume were kept in a secondary volume  
of said one of said storages as it is at the time of receiving  
said instruction, and make the backup copy from said secondary  
volume to the backup storage.

Serial No. 09/606,050

H-926

17. (New) A computer system as claimed in claim 13, wherein the operation and management software of said terminal realizes acquisition of statistical information of resources of said logical volumes.

D2  
18. (New) A computer system as claimed in claim 17, wherein the operation and management software of said terminal manages said logical volumes in said storages in accordance with said statistical information including usage of logical devices composing said logical volumes, said operation and management software predicting future usage of said logical devices given a proposed allocation of said logical devices based on said usage, and said operation and management software allocating said logical devices in response to a command based on said future usage prediction.

19. (New) A computer system as claimed in claim 18, wherein in performing said management of error monitoring for said storages, said operation and management software of said terminal collects failure reports from said storages.

20. (New) A computer system as claimed in claim 19, wherein in performing said management of setting up said fiber

Serial No. 09/606,050

H-926

channel switches, said operation and management software of said terminal sets a plurality of respective zones of said fiber channel switches and assigns said zones to said servers so as to restrict access to said storages in accordance with the zone assignments.

D2  
21. (New) A computer system as claimed in claim 20, wherein in performing said management of a server-less backup operation, said operation and management software of said terminal causes a replica of data, present in a logical volume assigned to one of said servers, to be created in a second logical volume; and causes a copy of said replica to be created in a backup storage without involvement of said server to which said logical volume is assigned.

22. (New) The computer system as claimed in claim 17, wherein said SAN is connected to a SAN in another computer system via a wide area network (WAN).

23. (New) A computer system as claimed in claim 13, wherein the operation and management software of said terminal manages said logical volumes in said storages in accordance with usage of logical devices composing said logical volumes,

Serial No. 09/606,050

H-926

information of said usage being obtained from said disk drives, said operation and management software predicting future usage of said logical devices given a proposed allocation of said logical devices based on said usage, and said operation and management software allocating said logical devices in response to a command based on said future usage prediction.

*DR*

24. (New) A computer system as claimed in claim 23, wherein in performing said management of error monitoring for said storages, said operation and management software of said terminal collects failure reports from said storages.

25. (New) A computer system as claimed in claim 24, wherein in performing said management of setting up said fiber channel switches, said operation and management software of said terminal sets a plurality of respective zones of said fiber channel switches and assigns said zones to said servers so as to restrict access to said storages in accordance with the zone assignments.

26. (New) A computer system as claimed in claim 25, wherein in performing said management of a server-less backup

Serial No. 09/606,050

H-926

operation, said operation and management software of said terminal causes a replica of data, present in a logical volume assigned to one of said servers, to be created in a second logical volume; and causes a copy of said replica to be created in a backup storage without involvement of said server to which said logical volume is assigned.

27. (New) The computer system as claimed in claim 26, wherein said SAN is connected to a SAN in another computer system via a wide area network (WAN).

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28. (New) A computer system as claimed in claim 13, wherein in performing said management of error monitoring for said storages, said operation and management software of said terminal collects failure reports from said storages.

29. (New) A computer system as claimed in claim 28, wherein in performing said management of setting up said fiber channel switches, said operation and management software of said terminal sets a plurality of respective zones of said fiber channel switches and assigns said zones to said servers so as to restrict access to said storages in accordance with the zone assignments.

Serial No. 09/606,050

H-926

30. (New) A computer system as claimed in claim 29, wherein in performing said management of a server-less backup operation, said operation and management software of said terminal causes a replica of data, present in a logical volume assigned to one of said servers, to be created in a second logical volume; and causes a copy of said replica to be created in a backup storage without involvement of said server to which said logical volume is assigned.

*D2*  
31. (New) The computer system as claimed in claim 30, wherein said SAN is connected to a SAN in another computer system via a wide area network (WAN).

32. (New) A computer system as claimed in claim 13, wherein in performing said management of setting up said fiber channel switches, said operation and management software of said terminal sets a plurality of respective zones of said fiber channel switches and assigns said zones to said servers so as to restrict access to said storages in accordance with the zone assignments.



Serial No. 09/606,050

H-926

33. (New) A computer system as claimed in claim 32, wherein in performing said management of a server-less backup operation, said operation and management software of said terminal causes a replica of data, present in a logical volume assigned to one of said servers, to be created in a second logical volume; and causes a copy of said replica to be created in a backup storage without involvement of said server to which said logical volume is assigned.

D2 34. (New) The computer system as claimed in claim 33, wherein said SAN is connected to a SAN in another computer system via a wide area network (WAN).

35. (New) A computer system as claimed in claim 13, wherein in performing said management of a server-less backup operation, said operation and management software of said terminal causes a replica of data, present in a logical volume assigned to one of said servers, to be created in a second logical volume; and causes a copy of said replica to be created in a backup storage without involvement of said server to which said logical volume is assigned.

Serial No. 09/606,050

H-926

02 36. (New) The computer system as claimed in claim 35,  
wherein said SAN is connected to a SAN in another computer  
system via a wide area network (WAN).

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